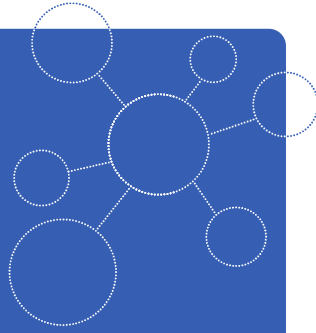
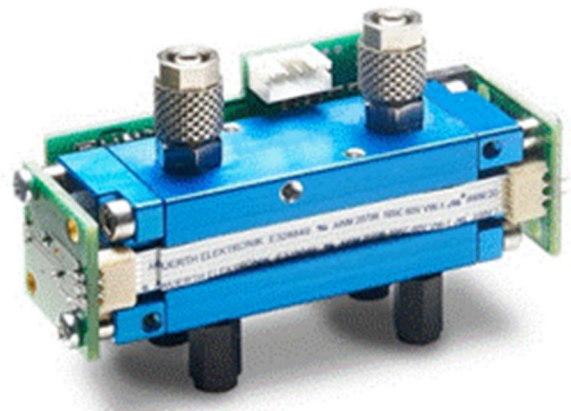


MADE IN GERMANY

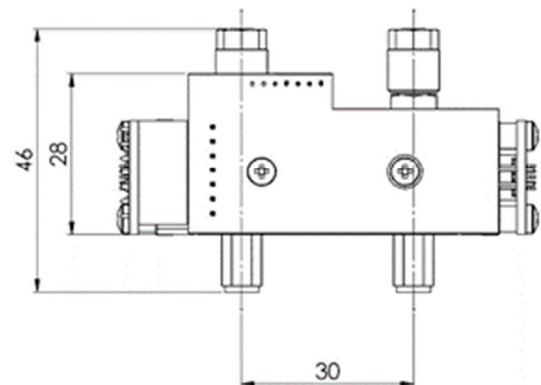
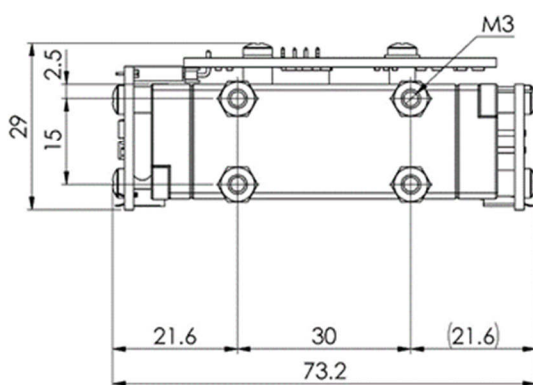


## FLOW<sup>EVO</sup> for Biogas application

Infrared gas Sensor  
Methane CH<sub>4</sub>  
100 Vol.-%  
smartGAS item number: F3-043108-05000



- Pre calibrated
- Compact Design
- 3/5 mm gas line connector
- 3.3–6 V DC supply voltage
- Modbus ASCII or RTU
- Status indicated by LED
- Low drift



### Application examples

Gas analysis  
Biogas application  
Process control

### Available equipment

Gas cooler  
Particle filter  
Gas pump  
Calibration Software  
Mounting equipment

### Available design in support

Mechanical Installation  
Data communication  
Gas pre-treatment

## General features

Measurement principle:	Non-Dispersive Infra-Red (NDIR), dual wavelength	
Measurement range:	0 ... 100 Vol.-% Full Scale (FS)	
Gas supply:	by flow (nearly atmospheric pressure)	
Flow rate:	0.1 ... 1.0 l / min	
Mounting dimensions:	76 mm x 30 mm x 50 mm (L x W x H)	
Warm-up time:	< 2 minutes (start-up time) < 30 minutes (full specification)	

## Measuring response\*

Digital resolution:	0.01 Vol.-%	
Response time @ 0.7 l / min**:	<i>Standard:</i>	<i>Fast:</i>
t <sub>90</sub> (10 to 90 % FS):	≤ 9.9 s	≤ 0.7 s
t <sub>0n</sub> (0 to 90 % FS):	≤ 16.5 s	≤ 1.8 s
Detection limit (3 σ):	≤ 0.2 Vol.-%	≤ 0.38 Vol.-%
Repeatability:	≤ ± 0.6 Vol.-%	
Linearity error (straight line deviation):	≤ ± 0.9 Vol.-%	
Long term stability (zero):	≤ ± 1.0 Vol.-% over 1000 h period	
Long term stability (span):	≤ ± 2.0 Vol.-% over 1000 h period	

## Influence of T, P, flow rate, other\*

Temp. dependence (zero):	≤ ± 0.1 Vol.-% per °C
Temp. dependence (span):	≤ ± 0.2 Vol.-% per °C
Pressure dependence:	+ 0.100 % of actual reading / hPa
Flow rate dependence:	≤ ± 0.1 Vol.-% per 0.1 l / min
Cross sensitivity (zero) other gases:	consult factory
Gas dew point requirement:	< + 5°C dew point (stable), particle free and clean sample gas

## Electrical parameters

Supply voltage	3.3 V ... 6.0 VDC
Supply current (peak):	< 400 mA @ 3.3 V, < 240 mA @ 5.0 V
Inrush current:	< 600 mA
Average power consumption:	< 800 mW
Digital output signal:	Modbus ASCII / RTU via UART, autobaud, autoframe
Calibration:	zero and span by SW

## Climatic conditions

Operating temperature:	0 ... +50 °C
Storage temperature:	-20 ... +60 °C
Air pressure:	800 ... 1150 hPa
Ambient humidity:	0 ... 95 % relative humidity (not condensing)

\* Typical values related to 1013 hPa, T<sub>a</sub> = 22 °C, flow = 0.7 l / min for dry (not condensing) and clean sample gas.  
Stated values exclude calibration gas tolerance.

\*\* Adjustable only via smartGAS Calibration-Tool SW.

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For more information, please visit [www.smartgas.eu](http://www.smartgas.eu) or contact us at [sales@smartgas.eu](mailto:sales@smartgas.eu)

Please consult smartGAS sales for parts specified with other temperature and measurement ranges. At first initiation and depending on application and ambient conditions recalibration is recommended. Recurring cycles of recalibration are recommended.